In the Claims:

1. (Currently amended) A method of delivering a drug dosage from a drug dispenser to receptors of the central nervous system of a patient's body to therapeutically treat one of symptoms of heart failure ("HF") and~~or~~ pathologies associated with HF, the method comprising the steps of:

surgically implanting a drug infusion catheter with a distal drug delivery portion is disposed at a predetermined central nervous system site;

coupling a proximal end of the drug infusion catheter to a drug delivery pump; and

monitoring the patient for at least one of symptoms of HF and pathologies associated with HF; and

in response positive detection of one of HF and pathologies associated with HF, operating the drug delivery pump to discharge a predetermined dosage of a sympatholytic cardiovascular agent to a central nervous system site effective to alleviate at least one of the ~~such~~ symptoms ~~and otherwise treat~~ of HF and~~or~~ the pathologies associated with HF.

2. (Original) A method according to claim 1, further comprising:

surgically implanting a physiologic sensor in the patient's body;

operating the physiologic sensor to derive a physiologic parameter associated with HF or a pathology associated with HF; and

adjusting the dosage as a function of the monitored physiologic parameter associated with HF or a pathology associated with HF.

3. (Original) A method according to claim 2, wherein the physiologic sensors comprise one or more of an EGM sensor, a patient activity sensor, a cardiac mechanical function metric determining sensor, a blood chemistry sensor, an arterial, venous or heart chamber blood pressure sensor, a blood temperature sensor, a neural activity sensor, and a molecular probe.

4. (Original) A method according to claim 3, wherein the operating step further comprises determining one or more of heart rate, heart rate variability, and aberrations in the PQRST segment include changes in morphology, ST segment elevation, electrical alternans, and interval changes associated with HF or a pathology associated with HF.

5. (Original) A method according to claim 4, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

6. (Currently amended) A method according to claim 4, wherein the sympatholytic agent ~~comprises one of the group consisting~~ consists of clonidine~~, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine, lidocaine, bupivacaine, and ropivacaine~~.

7. (Original) A method according to claim 3, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

8. (Currently amended) A method according to claim 3, wherein the sympatholytic agent ~~comprises one of the group consisting~~ consists of clonidine~~, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine lidocaine, bupivacaine, and ropivacaine~~.

9. (Original) A method according to claim 2, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

10. (Currently amended) A method according to claim 2, wherein the sympatholytic agent ~~comprises one of the group consisting~~ consists of clonidine~~, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine, lidocaine, bupivacaine, and ropivacaine~~.

11. (Original) A method according to claim 1, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

12. (Original) A method according to claim 11, wherein the physiologic sensors comprise one or more of an EGM sensor, and the operating step further comprises determining one or more of heart rate, heart rate variability, and aberrations in the PQRST segment include changes in morphology, ST segment elevation, electrical alternans, and interval changes associated with HF or a pathology associated with HF.

13. (Currently amended) A method according to claim 1, wherein the sympatholytic agent ~~comprises one of the group consisting~~consists of clonidine~~, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine, lidocaine, bupivacaine, and ropivacaine~~.

14. (Original) A method according to claim 13, wherein the physiologic sensors comprise one or more of an EGM sensor, and the operating step further comprises determining one or more of heart rate, heart rate variability, and aberrations in the PQRST segment include changes in morphology, ST segment elevation, electrical alternans, and interval changes associated with HF or a pathology associated with HF.

15. (Original) A method according to claim 1, wherein the sympatholytic cardiovascular agent is preferably delivered into the central nervous system accessed at one of: the sub-arachnoid space; the sub-arachnoid space of the spinal cord; the sub-arachnoid space of the thoracic spinal cord; the sub-arachnoid space between the first

and fifth thoracic vertebrae; the sympathetic preganglionic cell bodies located in the intermediolateral cell column of the spinal cord; the preganglionic sympathetic neurons which provide innervation to the heart; and the preganglionic sympathetic neurons which provide innervation to the kidneys.

16. (Original) A method according to claim 15, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

17. (Original) A method according to claim 15, wherein the sympatholytic agent comprises one of the group consisting of clonidine, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine, lidocaine, bupivacaine, and ropivacaine.

18. (Original) A method according to claim 1, wherein the drug delivery pump comprises an externally worn drug pump coupled to the proximal end of the drug infusion catheter.

19. (Original) A method according to claim 18, further comprising:

surgically implanting a physiologic sensor in the patient's body;

operating the physiologic sensor to derive a physiologic parameter associated with HF or a pathology associated with HF; and

adjusting the dosage as a function of the monitored physiologic parameter associated with HF or a pathology associated with HF.

20. (Original) A method according to claim 18, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

21. (Original) A method according to claim 18, wherein the sympatholytic agent comprises one of the group consisting of clonidine, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine lidocaine, bupivacaine, and ropivacaine.

22. (Original) A method according to claim 1, wherein the drug delivery pump comprises an implantable infusion pump coupled to the proximal end of the drug infusion catheter.

23. (Original) A method according to claim 22, further comprising:

surgically implanting a physiologic sensor in the patient's body;

operating the physiologic sensor to derive a physiologic parameter associated with HF or a pathology associated with HF; and

adjusting the dosage as a function of the monitored physiologic parameter associated with HF or a pathology associated with HF.

24. (Original) A method according to claim 23, further comprising providing the patient with a patient activator whereby the operating step comprises operating the patient activator to command the delivery of a dosage of the sympatholytic cardiovascular agent to a the central nervous system site.

25. (Original) A method according to claim 22, further comprising providing the patient with a patient activator whereby the operating step comprises operating the patient activator to command the delivery of a dosage of the sympatholytic cardiovascular agent to a the central nervous system site.

26. (Original) A method according to claim 22, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

27. (Currently amended) A method according to claim 22, wherein the sympatholytic agent ~~comprises one of the group consisting~~ consists of clonidine~~, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine, lidocaine, bupivacaine, and ropivacaine~~.

28. (Original) A method according to claim 1 wherein the central nervous system site comprises one of: the sub-arachnoid space; the sub-arachnoid space of the spinal cord; the sub-arachnoid space of the thoracic spinal cord; the sub-arachnoid space between the first and fifth thoracic vertebrae; the sympathetic preganglionic cell bodies located in the intermediolateral cell column of the spinal cord; the preganglionic sympathetic neurons that provide innervation to the heart; and the preganglionic sympathetic neurons that provide innervation to the kidneys.

29. (Original) A method according to claim 28, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

30. (Currently amended) A method according to claim 28, wherein the sympatholytic agent ~~comprises one of the group consisting~~ consists of clonidine~~, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine, lidocaine, bupivacaine, and ropivacaine~~.

31. (Original) A method according to claim 28, wherein the sympatholytic agent comprises clonidine delivered from into the central nervous system by continuous intrathecal infusion at a dosage of 0.01 to 1.0 mg/day.

32. (Original) A method according to claim 28, wherein the sympatholytic agent comprises clonidine delivered from into the central nervous system by continuous intrathecal infusion at a dosage of 0.01 to 1.0 mg/day.

33. (Original) A method according to claim 28, wherein the sympatholytic agent comprises clonidine delivered from into the central nervous system by continuous intrathecal infusion at a dosage of 50 to 500 mcg/day.

34. (Original) A method according to claim 28, wherein the sympatholytic agent comprises clonidine delivered from into the central nervous system by continuous intrathecal infusion at a dosage of 100 to 400 mcg/day.

35. (Original) A method according to claim 1, wherein the sympatholytic agent comprises clonidine delivered from into the central nervous system by continuous intrathecal infusion at a dosage of 0.01 to 1.0 mg/day.

36. (Original) A method according to claim 1, wherein the sympatholytic agent comprises clonidine delivered from into the central nervous system by continuous intrathecal infusion at a dosage of 50 to 500 mcg/day.

37. (Original) A method according to claim 1, wherein the sympatholytic agent comprises clonidine delivered from into the central nervous system by continuous intrathecal infusion at a dosage of 100 to 400 mcg/day.

38. (Currently amended) A system for delivering a drug dosage from a drug dispenser to receptors of the central nervous system of a patient's body to therapeutically treat symptoms of heart failure (HF) or pathologies associated with HF, the system comprising ~~the steps of~~:

a drug infusion catheter adapted to be implanted in the patient's body so that a distal drug delivery portion is disposed at a predetermined central nervous system site;

a drug delivery pump coupled to a proximal end of the drug infusion catheter having a drug reservoir holding a volume of a sympatholytic cardiovascular agent;

means for monitoring the patient for at least one of symptoms of HF and pathologies associated with HF; and

means for operating the drug delivery pump in response to a positive detection of one of the symptoms of HF and pathologies of HF via the monitoring of the patient to discharge a predetermined dosage of the sympatholytic cardiovascular agent to a central nervous system site effective to at least one of alleviate ~~such~~ symptoms of HF and ~~otherwise treat HF or~~ the pathologies associated with HF.

39. (Original) A system according to claim 38, further comprising:

a physiologic sensor adapted to be surgically implanted in the patient's body;

means for operating the physiologic sensor to derive a physiologic parameter associated with HF or a pathology associated with HF; and

means for adjusting the dosage as a function of the monitored physiologic parameter associated with HF or a pathology associated with HF.

40. (Original) A system according to claim 39, wherein the physiologic sensors comprise one or more of an EGM sensor, a patient activity sensor, a cardiac mechanical function metric determining sensor, a blood chemistry sensor, an arterial, venous or heart chamber blood pressure sensor, a blood temperature sensor, a neural activity sensor, and a molecular probe.

41. (Original) A system according to claim 40, wherein the operating means further comprises determining one or more of heart rate, heart rate variability, and aberrations in the PQRST segment include changes in morphology, ST segment elevation, electrical alternans, and interval changes associated with HF or a pathology associated with HF.

42. (Original) A system according to claim 41, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

43. (Original) A system according to claim 41, wherein the sympatholytic agent comprises one of the group consisting of clonidine, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine, lidocaine, bupivacaine, and ropivacaine.

44. (Original) A system according to claim 40, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

45. (Currently amended) A system according to claim 40, wherein the sympatholytic agent ~~comprises one of the group consisting~~ consists of clonidine~~, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine, lidocaine, bupivacaine, and ropivacaine~~.

46. (Original) A system according to claim 39, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

47. (Currently amended) A system according to claim 39, wherein the sympatholytic agent ~~comprises one of the group consisting~~ consists of clonidine~~, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine, lidocaine, bupivacaine, and ropivacaine~~.

48. (Original) A system according to claim 38, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

49. (Original) A system according to claim 48, wherein the physiologic sensors comprise one or more of an EGM sensor, and the operating means further comprises determining one or more of heart rate, heart rate variability, and aberrations in the

PQRST segment include changes in morphology, ST segment elevation, electrical alternans, and interval changes associated with HF or a pathology associated with HF.

50. (Currently amended) A system according to claim 38, wherein the sympatholytic agent ~~comprises one of the group consisting~~ consists of clonidine~~, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine, lidocaine, bupivacaine, and ropivacaine~~.

51. (Original) A system according to claim 50, wherein the physiologic sensors comprise one or more of an EGM sensor, and the operating means further comprises determining one or more of heart rate, heart rate variability, and aberrations in the PQRST segment include changes in morphology, ST segment elevation, electrical alternans, and interval changes associated with HF or a pathology associated with HF.

52. (Original) A system according to claim 38, wherein the sympatholytic cardiovascular agent is preferably delivered into the central nervous system accessed at one of: the sub-arachnoid space; the sub-arachnoid space of the spinal cord; the sub-arachnoid space of the thoracic spinal cord; the sub-arachnoid space between the first and fifth thoracic vertebrae; the sympathetic preganglionic cell bodies located in the intermediolateral cell column of the spinal cord; the preganglionic sympathetic neurons which provide innervation to the heart; and the preganglionic sympathetic neurons which provide innervation to the kidneys.

53. (Original) A system according to claim 52, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

54. (Currently amended) A system according to claim 52, wherein the sympatholytic agent ~~comprises one of the group consisting~~ consists of clonidine~~, p-aminoclonidine,~~

~~guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine, lidocaine, bupivacaine, and ropivacaine~~.

55. (Original) A system according to claim 38, wherein the drug delivery pump comprises an externally worn drug pump coupled to the proximal end of the drug infusion catheter.

56. (Original) A system according to claim 55, further comprising:

a physiologic sensor adapted to be surgically implanted in the patient's body;

means for operating the physiologic sensor to derive a physiologic parameter associated with HF or a pathology associated with HF; and

means for adjusting the dosage as a function of the monitored physiologic parameter associated with HF or a pathology associated with HF.

57. (Original) A system according to claim 55, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

58. (Currently amended) A system according to claim 55, wherein the sympatholytic agent ~~comprises one of the group consisting~~ consists of clonidine~~, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine, lidocaine, bupivacaine, and ropivacaine~~.

59. (Original) A system according to claim 38, wherein the drug delivery pump comprises an implantable infusion pump coupled to the proximal end of the drug infusion catheter.

60. (Original) A system according to claim 59, further comprising:

a physiologic sensor adapted to be surgically implanted in the patient's body;

means for operating the physiologic sensor to derive a physiologic parameter associated with HF or a pathology associated with HF; and

means for adjusting the dosage as a function of the monitored physiologic parameter associated with HF or a pathology associated with HF.

61. (Original) A system according to claim 60, further comprising a patient activator operable by the patient to command the delivery of a dosage of the sympatholytic cardiovascular agent to the central nervous system site.

62. (Original) A system according to claim 59, further comprising a patient activator operable by the patient to command the delivery of a dosage of the sympatholytic cardiovascular agent to the central nervous system site.

63. (Original) A system according to claim 59, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

64. (Currently amended) A system according to claim 59, wherein the sympatholytic agent ~~comprises one of the group consisting~~ consists of clonidine~~, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine, lidocaine, bupivacaine, and ropivacaine~~.

65. (Previously presented) A system according to claim 38 wherein the central nervous system site comprises one of: the sub-arachnoid space; the sub-arachnoid space of the spinal cord; the sub-arachnoid space of the thoracic spinal cord; the sub-arachnoid space between the first and fifth thoracic vertebrae; the sympathetic preganglionic cell bodies located in the intermediolateral cell column of the spinal cord;

the preganglionic sympathetic neurons that provide innervation to the heart; and the preganglionic sympathetic neurons that provide innervation to the kidneys.

66. (Original) A system according to claim 65, wherein the sympatholytic agent comprises one of the group consisting of an alpha-adrenergic agonist and an alpha2-adrenergic agonist.

67. (Currently amended) A system according to claim 65, wherein the sympatholytic agent ~~comprises one of the group consisting~~ consists of clonidine~~, p-aminoclonidine, guanabenz, lidamidine, tizanidine, moxonidine, methyldopa, xylazine, guanfacine, detomidine, medetomidine, dexmedetomidine, lidocaine, bupivacaine, and ropivacaine~~.

68. (Original) A system according to claim 65, wherein the sympatholytic agent comprises clonidine delivered from into the central nervous system by continuous intrathecal infusion at a dosage of 0.01 to 1.0 mg/day.

69. (Original) A system according to claim 65, wherein the sympatholytic agent comprises clonidine delivered from into the central nervous system by continuous intrathecal infusion at a dosage of 0.01 to 1.0 mg/day.

70. (Original) A system according to claim 65, wherein the sympatholytic agent comprises clonidine delivered from into the central nervous system by continuous intrathecal infusion at a dosage of 50 to 500 mcg/day.

71. (Original) A system according to claim 65, wherein the sympatholytic agent comprises clonidine delivered from into the central nervous system by continuous intrathecal infusion at a dosage of 100 to 400 mcg/day.

72. (Original) A system according to claim 38, wherein the sympatholytic agent comprises clonidine delivered from into the central nervous system by continuous intrathecal infusion at a dosage of 0.01 to 1.0 mg/day.

73. (Original) A system according to claim 38, wherein the sympatholytic agent comprises clonidine delivered from into the central nervous system by continuous intrathecal infusion at a dosage of 50 to 500 mcg/day.

74. (Original) A system according to claim 38, wherein the sympatholytic agent comprises clonidine delivered from into the central nervous system by continuous intrathecal infusion at a dosage of 100 to 400 mcg/day.